



Lorina Naci

Postdoctoral Fellow
Brain and Mind Institute, Western University

“Naturalistic approaches for understanding human consciousness”

Consciousness is, arguably, the central quality of human life. Yet, we know very little about how it emerges from the workings of the brain. For example, it remains unknown how different individuals may form similar conscious experiences. Likewise, the extent to which brain-injured or anesthetized patients – who cannot provide self-report – can form conscious experiences similar to those of healthy people remains unknown. I have developed an innovative approach for understanding the shared neural basis of our conscious experience as we engage in ubiquitous activities of daily life. For the first time, I have demonstrated that a common neural code underpins similar conscious experiences in healthy individuals, and that this code may be used to interpret these experiences without recourse to behaviour. This approach provided strong evidence for intact conscious experiences in several brain-injured patients, who were thought to lack consciousness for many years. Moreover, to understand more about the mechanisms of consciousness in the healthy brain, I have used anesthesia to selectively abolish consciousness. Using the same naturalistic approach, I have shown that cognitive processes are hierarchically impaired under sedation and that these impairments are key for understanding information integration in the conscious brain. Conversely, paradoxical preservation of high-level cognition under anesthesia deserves urgent investigation and suggests exciting new research avenues for understanding the mechanisms of consciousness. This work sheds light on the common neural basis of human consciousness and has important medico-ethical implications for patients whose consciousness eludes traditional behavioural assessments.

Date: Tuesday, November 10th, 2015

Time: 11:00 a.m.

Location: Fisher Room, RRI

If you require information in an alternate format or if any other arrangements can make this event accessible to you, please contact Denise Soanes at dsoanes4@uwo.ca



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